

**REMARKS**

Reconsideration is requested.

Acknowledgement of receipt of the priority documents in the parent application Serial No. 09/638,693, is requested in the Examiner's next Action. Attached is a copy of the Notification of Missing Requirement dated February 2, 1995 from the parent application Serial No. 08/362,455 as evidence of the Patent Office previous receipt of the priority documents.

Claims 56, 59 and 75-85 are pending. Claim 75 has been withdrawn from consideration.

Reconsideration of the withdrawal of claim 75 from consideration is requested. At a minimum, further clarification is requested as the basis of the withdrawal and the Examiner's comments relating to the same. Specifically, the applicants note that claim 56, which appears to have been examined, is believed to not specifically recite SEQ ID NO:36 but is more generally directed to a type 3a NS3/4 amino acid sequence spanning amino acids 1646 to 1764. That is, if claim 56 were found allowable, then presumably claim 75 would also be allowable. Further clarification is requested in the event claim 75 continues to be withdrawn from consideration.

The amendments to claims 56 and 59 (ii) are supported by the specification at, for example, line 11 of page 30, which defines an alternative embodiment of the disclosed invention as relating to fragments of at least 8 amino acids. No new matter has been added.

The Section 102 rejections of claims 56, 59 and 76 over Flores (Nucleic Acids Research 18, 901 (1990)), Shuldiner (JBC 264:9428 (1989)), Yuan (PNAS 80:1169

(1983)), Williams (Biochemistry 31:9768 (1992)), Horie (Biochemistry 106:1 (1989)), or Rosel (Journal of Virology 56:830 (1985)) are obviated by the above amendments.

Flores et al. is understood to disclose the sequence of the tnsE protein of *Escherichia coli*, which is also understood to have, at best, an overlap of 7 amino acids with a type 3a HCV NS3/4 protein.

Shuldiner et al. is understood to disclose the sequence of an insulin protein of *Xenopus laevis*, which is also understood to have, at best, an overlap of 6 amino acids with a type 3a HCV NS3/4 protein.

Yuan et al. is understood to disclose the sequence of a cytochrome P450 protein of *Rattus norvegicus*, which is also understood to have, at best, an overlap of 6 amino acids with a type 3a HCV NS3/4 protein.

Williams et al. is understood to disclose the sequence of a *Pseudomonas putida* protein belonging to the fumarate hydratase superfamily of proteins, which is also understood to have, at best, an overlap of 6 amino acids with a type 3a HCV NS3/4 protein.

Horie et al. is understood to disclose the sequence of a hypothetical L1 protein of *Homo sapiens*, which is also understood to have, at best, an overlap of 6 amino acids with a type 3a HCV NS3/4 protein.

Rosel et al. is understood to disclose the sequence of vaccinia virus core protein P4b precursor, which is understood to have, at best, an overlap of 6 amino acids with the a type 3a HCV NS3/4 protein.

None of the cited art however anticipates the presently claimed invention. The claims are submitted to be patentable over the cited art.

For the convenience of the Examiner, the following longer alignments of the Examiner's sequences are provided:

Flores et al. (1990) - GenBank X04534  
RKSSQTILEKEEATTSENSNLVSTDEPHLGGVLAADVGGKQDATNYNSIFANRFAAF  
ICLTHPITKYIMACMSADLEVTTSTWVLLGGVLAALAAAYCLSVGCVVIVGHIELGGK  
SEQ ID NO:36

Shuldiner et al. (1989) - GenBank M24442  
RGFFYYPKIKRDI~~EQ~~QAVNGPQDNELDGMQFQ~~PQ~~EYQKMKRGIVEQCCHSTCSLFOLE  
DEMEECQAAPYIE~~EQ~~QAVIAHQFKGKVLGLLQRATQQQAVIEPIVT  
SEQ ID NO:36

Yuan et al. (1983) - GenBank unknown, from Fig. 2 of reference  
ALVGQAEDFSGRGTIAVIEPIFKEYGVIFANGE  
KGKVLGLLQRATQQQAVIEPIVTTNWQKLEAFWHKH  
SEQ ID NO:36

Williams et al. (1992) - GenBank L17082  
HAEWETLPDICCLVSGALRQAQVIAEGIEVDAARMRRNLDLTQGLVLAEAVSIVLARTP  
LYQQYDEMEECQAAPYIEQAQVIAHQFKGKVLGLLQRATQQQAVIEPIVT  
SEQ ID NO:36

Horie et al. (1989) - GenBank unknown, from Fig.4 of reference  
L1HsTS AIYDKATANIIVNGQKLEAFPLKTGTRQCPLSPLL  
Cd11 AIYDKTTANIILNGQKLEAFPLKTGTRQCPLSPLL  
KVLGLLQRATQQQAVIEPIVTTNWQKLEAFWHKH  
SEQ ID NO:36

Rosel et al. (1985) - GenBank M11079  
PTLVSVARPINGISYDMKLQAAPYIVNPMKMITSDSPISINSKDIYSMAFD  
IVPDKEVLYQQYDEMEECQAAPYIEQAQVIAHQFKGKVLGLLQRATQQQAVIEPIVT  
SEQ ID NO:36

Withdrawal of the Section 102 rejections is requested.

To the extent not obviated by the above amendments, the Section 103 rejection of claim 77 over Flores (Nucleic Acids Research 18, 901 (1990)), Shuldiner (JBC 264:9428 (1989)), Yuan (PNAS 80:1169 (1983)), Williams (Biochemistry 31:9768 (1992)), Horie (Biochemistry 106:1 (1989)), or Rosel (Journal of Virology 56:830 (1985))

"in view of the applicants' admitted state of the prior art (e.g., instant application at pages 42-43)" is traversed. Reconsideration and withdrawal of the rejection are requested in view of the following distinguishing comments.

Claim 77 provides a method for raising antibodies with polypeptides comprising at least 14 contiguous amino acids of a type 3a HCV NS3/4 protein. Basis for "at least 14" may be found, for example, on line 11 of page 30 of the specification. As noted above, none of the proteins cited by the Examiner are defined by the recitations of claim 77 and none of the proteins cited by the Examiner are of HCV origin. Claim 77 is submitted to be patentable over the cited art. Withdrawal of the Section 103 rejection is requested.

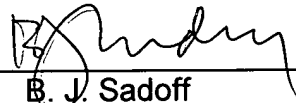
The claims are submitted to be patentable over the art of record and in condition for allowance and a Notice to that effect is requested.

The Examiner is requested to contact the undersigned in the event anything further is required.

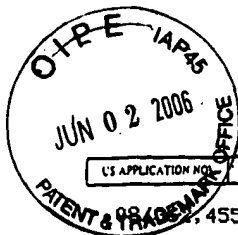
Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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#2

U.S. APPLICATION NO. 09/000,455 FIRST NAMED APPLICANT MAERTENS ATTY. DOCKET NO. G 1487-4

INTERNATIONAL APPLICATION NO.

PCT/EP94/01323

I.A. FILING DATE PRIORITY DATE

04/27/94 04/27/93

DATE MAILED: 02/02/95

NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

1. The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as ☒ a Designated Office (37 CFR 1.494),

☐ an Elected Office (37 CFR 1.495):

☒ U.S. Basic National Fee.

☒ Copy of the international application in:

☐ a non-English language.

☒ English.

☐ Translation of the international application into English.

☐ Oath or Declaration of inventor(s) for DO/EO/US.

☐ Copy of Article 19 amendments.

☐ Translation of Article 19 amendments into English.

☐ The International Preliminary Examination Report in English and its Annexes, if any.

☐ Translation of Annexes to the International Preliminary Examination Report into English.

☒ Preliminary amendment(s) filed 27 DEC - 1994 and

☒ Information Disclosure Statement(s) filed 27 DEC - 1994 and

☐ Assignment document.

☐ Power of Attorney and/or Change of Address.

☐ Substitute specification filed

☐ Verified Statement Claiming Small Entity Status.

☒ Priority Document

☐ Other.

2. The following items MUST be furnished within the time period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

☐ a. Translation of the application into English. Note a processing fee will be required if submitted later than the appropriate 20 or 30 months from the priority date.

☐ The current translation is defective for the reasons indicated on the attached Notice of Defective Translation.

☐ b. Processing fee for providing the translation of the application and/or the Annexes later than the appropriate 20 or 30 months from the priority date (37 CFR 1.492(f)).

☒ c. Oath or Declaration of the inventors, in compliance with 37 CFR 1.63, identifying the application by International application number and international filing date.

☐ The current oath or declaration does not comply with 37 CFR 1.63 for the reasons indicated on the attached PTO-152.

☐ d. Surcharge for providing the oath or declaration later than the appropriate 20 or 30 months from the priority date (37 CFR 1.492(e)).

3. Additional claim fees of \$\_\_\_\_\_ as a ☐ large entity ☐ small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due. See attached PTO-875.

ALL OF THE ITEMS SET FORTH IN 2(a) - 2(d) AND 3 ABOVE MUST BE SUBMITTED WITHIN ONE MONTH FROM THE DATE OF THIS NOTICE OR BY ☐ 21 or ☐ 31 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

4. Translation of the Annexes MUST be submitted no later than the time period set above or the annexes will be cancelled. Note a processing fee will be required if submitted later than 30 months from the priority date.

5. ☐ The Article 19 amendments are cancelled since a translation was not provided by the appropriate 20 (37 CFR 1.494(d)) or 30 (37 CFR 1.495(d)) months from the priority date.

Applicant is reminded that any communication to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5).

A copy of this notice MUST be returned with the response.

Enclosed: ☐ PTO-152 ☐ Notice of Defective Translation  
☐ PTO-875

FORM PCT/DO/EO/905 (May 1993)

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